CLAIMS

1. A method for making an optical fiber, comprising the steps of:

providing an optical fiber preform having a longitudinal axis;

heating at least a portion of the optical fiber preform in a heat source as the optical fiber preform passes therethrough;

rotating the optical fiber preform about its longitudinal axis and with respect to the heat source; and

drawing an optical fiber from the heated, rotated optical fiber preform.

2. The method as recited in claim 1, wherein the rotating step further comprises rotating the optical fiber preform about its longitudinal axis and with respect to the heat source at a rotation rate that is less than approximately 600 revolutions per minute (rpm).

3. The method as recited in claim 1, wherein the rotating step rotates the optical fiber preform about its longitudinal axis and with respect to the heat source at a constant rate of rotation.

4. The method as recited in claim 1, wherein the rotating step rotates the optical fiber preform about its longitudinal axis and with respect to the heat source at a variable rate of rotation.

5. The method as recited in claim 1, wherein the rotating step rotates the optical fiber preform about its longitudinal axis and with respect to the heat source in a first direction of rotation.

6. The method as recited in claim 1, wherein the rotating step rotates the optical fiber preform about its longitudinal axis and with respect to the heat source alternatingly between a first direction of rotation and a second direction of rotation opposite that of the first direction of rotation.

7. The method as recited in claim 1, wherein the rotating step further comprises the steps of maintaining the heat source rotationally stationary and rotating the optical fiber preform about its longitudinal axis.

8. The method as recited in claim 1, wherein the rotating step further comprises the steps of maintaining the optical fiber preform rotationally stationary and rotating the heat source about the longitudinal axis of the optical fiber preform.

9. The method as recited in claim 1, further comprising the step of spinning the optical fiber as it is being drawn from the optical fiber preform.

10. The method as recited in claim 1, wherein the optical fiber has a PMD coefficient less than approximately 0.2 picoseconds/(kilometer)$^{1/2}$.

11. The method as recited in claim 1, wherein the heat source further comprises a furnace.

12. An apparatus for making an optical fiber, comprising:

a heat source for heating an optical fiber preform passing therethrough; and

a chuck for holding one end of the optical fiber preform and passing the optical fiber preform through the heat source,

wherein the optical fiber preform is drawn into an optical fiber, wherein the optical fiber preform has a longitudinal axis, and wherein the apparatus rotates the optical fiber preform about its longitudinal axis and with respect to the heat source as the optical fiber preform passes through the heat source.

13. The apparatus as recited in claim 12, wherein the apparatus rotates the optical fiber preform about its longitudinal axis and with respect to the heat source at a rate of rotation that is less than approximately 600 revolutions per minute (rpm).

14. The apparatus as recited in claim 12, wherein the apparatus rotates the optical fiber preform about its longitudinal axis and with respect to the heat source at a constant rate of rotation.

15. The apparatus as recited in claim 12, wherein the apparatus rotates the optical fiber preform about its longitudinal axis and with respect to the heat source at a variable rate of rotation.

16. The apparatus as recited in claim 12, wherein the apparatus rotates the optical fiber preform about its longitudinal axis and with respect to the heat source in a first direction of rotation.

17. The apparatus as recited in claim 12, wherein the apparatus rotates the optical fiber preform about its longitudinal axis and with respect to the heat source alternatingly between a first direction of rotation and a second direction of rotation opposite that of the first direction of rotation.

18. The apparatus as recited in claim 12, wherein the heat source remains rotationally stationary and the chuck rotates the optical fiber preform about its longitudinal axis as the chuck passes the optical fiber preform through the heat source.

19. The apparatus as recited in claim 12, wherein the chuck remains rotationally stationary and the heat source rotates about the longitudinal axis of the optical fiber preform as the chuck passes the optical fiber preform through the heat source.

20. The apparatus as recited in claim 12, further comprising a spinning device for imparting a spin on the optical fiber being drawn from the optical fiber preform.

21. The apparatus as recited in claim 12, wherein the heat source further comprises a furnace.